



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/582,481 | 08/21/2006 | Masaki Kato | R2184.0506/P506 | 4923 |
| 24998 7590 06/07/2010 DICKSTEIN SHAPIRO LLP 1825 EYE STREET NW Washington, DC 20006-5403 | | | | |
| EXAMINER FISCHER, MARK L | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2627 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 06/07/2010 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,481

Applicant(s)

KATO ET AL.

Examiner

Mark L. Fischer

Art Unit

2627

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-9,11 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-9,11 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 3, 2010 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 2/1, 2/6, 4, 6, 8, 9, 11/8, and 11/9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narumi et al. (EP 1,318,509 A1, hereinafter Narumi) in view of Spruit (U.S. Pub. No. 2002/0085462 A1).**

Regarding claim 1, Narumi discloses a method of recording information using a laser on a multilayer optical disk (see Fig. 8) having a plurality of recording layers, the plurality of recording layers including a first recording layer (820) and a second recording layer (830), the second recording layer being a recording layer adjacent the first recording layer, the first recording layer having a first test writing area (826) to be used for calibration of write power and the second recording layer having a second test writing area (836) to be used for calibration of write power, wherein a first region (region of 826 that is defined by its complete superposition

with a region of 836) of the first test writing area is completely superposed with a second region (region of 836 that is defined by its complete superposition with a region of 826) of the second test writing area (836) when considered in the direction in which the laser is arranged to irradiate (regions of 826 and 836 overlap in Fig. 8), the method comprising: if the second region of the second test writing area is unrecorded (¶ [0111], area 836 is initially unused), recording data in the second region of the second test writing area, thereby converting the second region of the second test writing area into a recorded state (¶ [0112], test recording is performed on area 836); once the second region of the second test writing area has been converted into a recorded state, performing test writing in the first region of the first test writing area (obvious from the context of Example 3 (¶ [0115] and [0118]) that test recording is first performed on second test writing area 836, and further since disc 800 is a two-layer disc with TEST areas 826 and 836 for both layers, then TEST area 826 is used (i.e. test writing in 826) after test writing in 836); and wherein before performing the test writing in the first region of the first test writing area, if the first region of the first test writing area is unrecorded (¶ [0121]), the method comprises: recording data in the first region of the first test writing area, thereby converting the first region of the first test writing area into a recorded state (¶ [0121], area 875 which includes area 826 is placed in recorded state prior to test writing in area 836).

Narumi does not explicitly disclose and then clearing the first region of the first test writing area; and wherein the clearing of the first region of the first test writing area comprises performing an erasure operation to make the first region unrecorded; and wherein the method further includes the step of recording dummy data in the first recording layer, and wherein the

step of recording dummy data in the first recording layer occurs subsequent to the step of performing test writing in the first region of the first test writing area.

However, Spruit discloses clearing a test writing area before test writing (§ [0010-0011]: writing a test pattern); and wherein the clearing of the test writing area comprises performing an erasure operation to make the first region unrecorded (§ [0010-0011]); and wherein the method further includes the step of recording dummy data (§ [0010-0011]: recording another test pattern) in the first recording layer, and wherein the step of recording dummy data (recording another test pattern) in the first recording layer occurs subsequent to the step of performing test writing (recording a test pattern) in the first region of the first test writing area.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Narumi with Spruit with the motivation to achieve more accurate and unambiguous write power level values for new recording mediums (Spruit, § [0011]).

Regarding claim 2/1, Narumi discloses that the second recording layer (830) is the next recording layer with respect to the first recording layer (820) in the direction in which the laser is arranged to irradiate (see Fig. 8).

Regarding claim 2/6, see the rejection of claim 2/1.

Regarding claim 4, see the rejection of claim 1.

Regarding claim 6, see the rejection of claim 1.

Regarding claim 8, see the rejection of claim 1.

Regarding claim 9, see the rejection of claim 2/1.

Regarding claim 11/8, see the rejection of claim 1.

Regarding claim 11/9, see the rejection of claim 1.

4. **Claims 7/1, 7/6, 14/8, and 14/9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narumi in view of Spruit further in view of Hayashi (U.S. Pat. No. 5,473,614).**

Regarding claim 7/1, Narumi discloses that for the first region of the first test writing area, or the second region of the second test writing area, the respective step of recording data in the region thereby converting the region into a recorded state comprises performing an operation to record dummy information in the region 875 (¶ [0114]). Narumi does not explicitly disclose that the dummy information makes the region logically zero. However, Hayashi discloses that dummy information can be logic “0”. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Narumi in view of Spruit with Hayashi with the motivation to use a type of dummy information that is common and well-known in the art.

Regarding claim 7/6, see the rejection of claim 7/1.

Regarding claim 14/8, see the rejection of claim 7/1.

Regarding claim 14/9, see the rejection of claim 7/1.

5. **Claims 1, 2/1, 2/6, 4, 6, 8, 9, 11/8, and 11/9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narumi in view of Kubo et al. (WO 2004/057585, hereinafter Kubo) further in view of Van Der Vleuten et al. (WO 2006/048810 A1, hereinafter Van Der Vleuten).**

Regarding claim 1, Narumi discloses a multilayer optical disk (see Fig. 8) having a plurality of recording layers, the plurality of recording layers including a first recording layer (820) and a second recording layer (830), the second recording layer being a recording layer adjacent the first recording layer, the first recording layer having a first test writing area (826) to be used for calibration of write power and the second recording layer having a second test writing area (836) to be used for calibration of write power, wherein a first region (region of 826 that is defined by its complete superposition with a region of 836) of the first test writing area is completely superposed with a second region (region of 836 that is defined by its complete superposition with a region of 826) of the second test writing area (836) when considered in the direction in which the laser is arranged to irradiate (regions of 826 and 836 overlap in Fig. 8).

Narumi does not explicitly disclose a method of recording information using a laser on the multilayer disk, the method comprising: if the second region of the second test writing area is unrecorded, recording data in the second region of the second test writing area, thereby converting the second region of the second test writing area into a recorded state; once the second region of the second test writing area has been converted into a recorded state, performing test writing in the first region of the first test writing area.

However, Kubo discloses a method comprising: if a region (105) above a first test writing area is unrecorded, recording data in the region (105), thereby converting the region into a recorded state ([0338] and [0340]), and once the region (105) has been converted into a recorded state, performing test writing in a first region (95a) of the first test writing area (95a), where in Kubo, the region (105) is positioned relative to the first region (95a) just as in Narumi, the second region (region of 836) of Narumi is located relative to the first region (region of 826).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Narumi with Kubo with the motivation to perform the OPC process for the first recording layer in a state closer to the actual recording state (Kubo, [0338]).

Narumi in view of Kubo does not explicitly disclose wherein before performing the test writing in the first region of the first test writing area, if the first region of the first test writing area is unrecorded, the method comprises: recording data in the first region of the first test writing area, thereby converting the first region of the first test writing area into a recorded state, and then clearing the first region of the first test writing area; and wherein the clearing of the first region of the first test writing area comprises performing an erasure operation to make the first region unrecorded; and wherein the method further includes the step of recording dummy data in the first recording layer, and wherein the step of recording dummy data in the first recording layer occurs subsequent to the step of performing test writing in the first region of the first test writing area.

However, Van Der Vleuten discloses before performing test writing in a region of a test writing area, if the region of the test writing area is unrecorded, the method comprises: recording data in the region of the test writing area, thereby converting the region of the test writing area into a recorded state, and then clearing the region of the test writing area (Page 7, lines 4-5: “initial OPC steps of writing of data and subsequently erasing said data”); and wherein the clearing of the region of the test writing area comprises performing an erasure operation to make the region unrecorded (Page 7, line 5: “erasing said data”); and wherein the method further includes the step of recording dummy data in the first recording layer, and wherein the step of

recording dummy data in the first recording layer occurs subsequent to the step of performing test writing in the first region of the first test writing area (Page 7, line 14: “or even better two, initial writes” where the second initial write can be considered recording dummy data subsequent to the initial OPC step of writing data mentioned on Page 7, line 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Narumi in view of Kubo with Van Der Vleuten with the motivation to avoid inconsistent OPC-results (Van Der Vleuten, Page 7, lines 3-10).

Regarding claim 2/1, Narumi discloses that the second recording layer (830) is the next recording layer with respect to the first recording layer (820) in the direction in which the laser is arranged to irradiate (see Fig. 8).

Regarding claim 2/6, see the rejection of claim 2/1.

Regarding claim 4, see the rejection of claim 1.

Regarding claim 6, see the rejection of claim 1.

Regarding claim 8, see the rejection of claim 1.

Regarding claim 9, see the rejection of claim 2/1.

Regarding claim 11/8, see the rejection of claim 1.

Regarding claim 11/9, see the rejection of claim 1.

6. **Claims 7/1, 7/6, 14/8, and 14/9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narumi in view of Kubo further in view of Van Der Vleuten furthermore in view of Hayashi.**

Regarding claim 7/1, Kubo discloses the respective step of recording data in the region thereby converting the region into a recorded state ([0338]). Further, Narumi discloses the use of dummy information to make an unrecorded area recorded ([0114]). Narumi in view of Kubo further in view of Van Der Vleuten does not explicitly disclose performing an operation to make the region logically zero. However, Hayashi discloses that dummy information can be logic "0". It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Narumi in view of Kubo further in view of Van Der Vleuten with Hayashi with the motivation to use a type of dummy information that is common and well-known in the art.

Regarding claim 7/6, see the rejection of claim 7/1.

Regarding claim 14/8, see the rejection of claim 7/1.

Regarding claim 14/9, see the rejection of claim 7/1.

Response to Arguments

7. Applicant's arguments filed March 3, 2010 have been fully considered but they are not persuasive:

(a) Applicant argues (**Remarks: page 6, lines 11-15**) that "Claim 1 as amended says that the first region of the first test writing area is completely superposed with the second region of the second test writing area when considered in the irradiation direction of the laser. The references do not suggest this important feature of the claimed invention. Narumi shows merely a partial superposition (overlapping) of such PCAs (a first test recording area 826 and a second test recording area 836) (see Fig. 8)" and similarly

argues (**Remarks: page 7, lines 10-12**) that “Narumi shows merely a partial superposition (overlapping) of such PCAs (a first test recording area 826 and a second test recording area 836) (see Fig. 8).” However, a region of the first test writing area can be defined with reference to Fig. 8 of Narumi as the region of area 826 that is completely superposed by a region 836 (i.e. the region on 820 that begins from the left-most portion of area “a” and ends at the right-most portion of 826). Similarly, a region of the second test writing area can be defined with reference to Fig. 8 of Narumi as the region of area 836 that is completely superposed by a region 826 (i.e. the region on 830 that begins from the left-most portion of 836 and ends at the right-most portion of 826). When the regions of the first and second test writing areas are defined in this way, they meet the limitation of being completely superposed.

(b) Applicant argues (**Remarks: page 6, lines 16-19**) with respect to the rejection of claim 1 under 35 U.S.C. § 103 as being unpatentable over Narumi in view of Spruit, that “claim 1 as amended recites the step of recording dummy data in the first recording layer, after the test writing. The references do not disclose this important aspect of the claimed invention either. Please note that Spruit does not refer to an optical disk that has multiple layers.” However, a test pattern (Spruit - ¶ [0010-0011]) can be considered to be dummy data, and since Spruit discloses recording plural test patterns, one could interpret a first recorded test pattern to be test writing, and a subsequent recorded test pattern to be recording of dummy data. Additionally, the teachings of Spruit used in the rejection are for the purpose of achieving more accurate and unambiguous write power level values for

new recording mediums (Spruit, ¶ [0011]) and thus could be applied to any layer of a recording medium including the first layer to achieve the same purpose.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Fischer whose telephone number is (571) 270-3549. The examiner can normally be reached on Monday-Friday from 9:00AM to 6:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HOA T NGUYEN/
Supervisory Patent Examiner, Art Unit 2627

/Mark L Fischer/
Examiner, Art Unit 2627